

ology beginning in the early 1920s (the "pioneer of scientific ornithology" of the title). If Stresemann did not accomplish anything else during his long career, his action in pushing development of the New Avian Biology is sufficient to insure his position as having the most profound influence on twentieth-century world ornithology. Most interesting is that Stresemann stayed strictly within ornithology during his entire scientific career; he did not branch out into general zoological or theoretical biological topics.

The three authors have done an excellent job in presenting the life and work of Erwin Stresemann, with each of the major chapters full of interesting facts and analyses, and extensive documentation. This history is best read in conjunction with Haffer's 1997 *Ornithologen-Briefe des 20. Jahrhunderts* (see, W. J. Bock, 1999, *Auk*, 116:861–863). Because those chapters were written at different times and independently of one another, there is some duplication of material but that does not distract from the book. One of the little-known aspects of Stresemann's life was that, in 1934, he was offered a research professorship at Yale University through the efforts of Dr. Leonard Sanford, with the possibility of heading up the Peabody Museum (pp. 42, 144). Stresemann visited Yale during his trip to the United States from November 1935 to March 1936, but, feeling himself bound to Berlin and Germany, he declined the offer. There is little discussion of Stresemann's other trips to North America: in 1958 he addressed the American Ornithologists' Union on the status of avian systematics (1959d) at its 75th anniversary meeting in New York City, and in 1962 he attended the International Ornithological Congress in Ithaca, New York to speak on the taxonomic value of wing molt. During both trips, Erwin and his wife, Vesta Stresemann, studied the molt of birds at the American Museum of Natural History (E. and V. Stresemann, 1966). It was during those visits that most North American ornithologists would have met Stresemann.

Stresemann's best known publications are his *Aves* volume in the *Handbuch der Zoologie 1927–1934* (only 536 were sold by 1934 and an additional 156 by 1944, a total of only 692 of the original 2,200 printed; the remaining two-thirds were tragically destroyed by fire toward the end of World War II, see, p. 248), and his *Ornithology: From Aristotle to the Present* (1975; original German edition, 1951). Both were discussed by Haffer (pp. 248–250, and 297–302). The *Aves* volume was analyzed in connection with a long section on the development of the New Avian Biology (pp. 248–295). Haffer points out that Stresemann's history of ornithology was written during the difficult years following World War II when his access to the literature was restricted. That historical work concentrated on avian systematics and on European workers; hence there is still a great need for a thorough treatment of the history of worldwide ornithology.

Another of Stresemann's important contributions in 1939 was part of his *The Birds of Celebes* in which he advocated his ideas of a "dynamic zoogeography" (pp. 213–219; 414–416). That was in reaction to excessive land-bridge building by the biogeographers of the time and which was based on changes in the habitats over time and the differential dispersal abilities of different species. Although a few persons acknowledge credit to Stresemann for these ideas (e.g. E. Mayr, 1944, *The Birds of Timor and Sumba*, *Bulletin of the American Museum of Natural History*, 83:123–194), his concept of dynamic zoogeography is still insufficiently unknown and deserves a full analytic review.

The leading German Academy of Science, the Leopoldina, published this book by Haffer and his colleagues on the life and work of Erwin Stresemann, the leading German ornithologist; hence the bulk of the publication is in German. That is unfortunate because most of the world's ornithologists will not be able to appreciate in depth the importance of Stresemann to the development of ornithology during the first half of the twentieth century, in spite of the excellent English summary by Jürgen Haffer (pp. 399–427). It would be a great benefit to most ornithologists if someone would undertake the great task of translating this volume into English and republishing it, perhaps as a CD-ROM.

In summary, this authoritative history of the life and work of Erwin Stresemann is essential to all ornithologists and science historians with the slightest interest in the history of ornithology. Jürgen Haffer, Erich Rutschke and Klaus Wunderlich are to be congratulated for their excellent and thorough presentation; all ornithologists and historians of science are in their debt. The cost of this book is most reasonable compared to its contents, and I urge anyone interested in the history of ornithology to obtain this valuable addition to our science.—WALTER J. BOCK, *Department of Biological Sciences, Columbia University, 1200 Amsterdam Avenue, Mail Box 5521, New York, New York, 10027-7004 USA. E-mail: wb4@columbia.edu*

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Ecology and Conservation of Grassland Birds of the Western Hemisphere—Edited by Peter D. Vickery and James R. Herkert. 1999. *Proceedings of a Conference, Tulsa, Oklahoma, October 1995. Studies in Avian Biology No. 19.* Cooper Ornithological Society, Camarillo, California. vii + 299 pp., numerous figures. ISBN 1-891276-08-5. Paper, \$25.00; ISBN 1-891276-11-5. Cloth, \$39.50.—Within the past 10–15

years, the widespread declines of grassland birds throughout the Western Hemisphere have become well known. For example, Knopf (1994:251) states that North American grassland birds have experienced "steeper, more consistent, and more geographically widespread declines than any other behavioral or ecological guild." Similar population trends are reported for birds of South American grasslands. Those declines have generated a flurry of research, some of which is reported in this book. This book, therefore, represents a timely contribution to our knowledge of the ecology and conservation of grassland birds.

This book comprises a series of 34 papers originally presented at a two-day conference held in Tulsa, Oklahoma in October 1995, and loosely organized into four major sections (Introduction, Ecology, Breeding Ecology, and Latin America). The Breeding Ecology section is by far the largest and is further organized into subsections on habitat selection, fire, the Conservation Reserve Program (CRP), management, and data collection and analysis. Each chapter can stand alone (e.g. each has its own literature cited sections, and abstracts in both English and Spanish). Most chapters represent the results of original research conducted by the 66 authors throughout the Western Hemisphere. The book is written and organized much like a typical scientific journal, and the target audience is the scientific community. As is true of most edited books of this nature, the chapters are a somewhat haphazard and eclectic mixture of studies on topics ranging from nocturnal migration calls and thermal aspects of nest sites, to summaries of continental population trends from the Breeding Bird Survey (BBS). This results in some important subjects being largely ignored (e.g. virtually none of the studies looked at hayfields—currently a major habitat type for grassland birds in North America—or at the effects of mowing) and other subjects covered in some detail (e.g. five papers on the effects of fire). As is also frequently true of most of these collections, the reader is left with the impression that the truly good stuff from many of these studies will likely be published elsewhere in more prestigious outlets. Despite those limitations, the chapters typically are based on interesting and solid science. The book is extremely well edited and is virtually error-free. The figures are uniformly of high quality. The only minor exceptions are the population-trend maps found in the chapter by Peterjohn and Sauer (two of the three trend classes are hard to distinguish). Although the inclusion of a large number of maps no doubt necessitated their small size, distinguishing the categories was difficult. Also, the cover photograph of Greater Rheas (*Rhea americana*) seems inappropriate given that none of the papers dealt with that species. However, each of the four major sections contained noteworthy chapters, some of which I will discuss below.

The introductory chapter on the conservation of grassland birds in the Western Hemisphere by Vickery et al. was one of the highlights of the book. It outlines and summarizes the locations (and terminology) of the various grasslands of the Western Hemisphere and contains lists of the obligate and facultative grassland birds of both North and South America. Useful definitions are also given for grasslands and grassland birds. Although one can quibble with these definitions (e.g. I am not sure I would include sedge-dominated tundra with more "traditional" grasslands) and lists (jaegers, *Stercorarius* spp., as obligate grassland birds?), they are a valuable reference and an excellent starting point for more specialized or restrictive lists. In addition, the chapter summarizes likely causes of population declines, current and future threats to grassland birds, and conservation strategies and future research needs.

The second section (Ecology) begins with a useful summary by Peterjohn and Sauer of current population status of grassland birds in North America. They report trends based on 30 years of BBS data. Askins' paper on history of eastern grassland birds is fascinating and based on impressive historical research, although one should be forewarned that it is very similar to an early chapter in his recent book (Askins 2000). I also enjoyed the two papers by Rotenberry and Knick and one by O'Connor et al. because they remind us of potential overriding importance of landscape effects on bird-habitat associations, and that those effects are not restricted to forest birds.

The Breeding Ecology section also had several interesting chapters. For example, the chapter by Bock et al. on grassland birds at a suburban edge contains one of the best demonstrations to date of reduced densities of grassland birds near certain types of habitat edges. The five-year study by Herkert and Glass on fire effects on Henslow's Sparrow (*Ammodramus henslowii*) should be very valuable to managers interested in this enigmatic grassland bird, as should Winter's paper on Baird's Sparrow (*Ammodramus bairdii*). Igl and Johnson's contribution (on Le Conte's Sparrow, *Ammodramus leconteii* and CRP fields) shows us that climate variation may lead to dramatic annual fluctuations in grassland bird abundance whereas Koford provides an important assessment of the value of CRP grasslands in North Dakota and Minnesota. Also in this section was Temple et al.'s treatment of effects of grazing on nesting birds in Midwestern pastures. Their "probird" grazing management system provides concrete management guidelines that may benefit the especially vulnerable grassland bird populations of the Midwest. Finally, I thought the three papers in the Data Collection and Analysis subsection were especially noteworthy. I was intrigued by Evans and Mellinger's paper suggesting that the measurement of vocalizations produced by night-migrating birds has

potential as a monitoring tool. Peterson and Best provide important warnings regarding the interpretation of perturbation experiments (including the need for controls, pretreatment data, and long-term posttreatment monitoring). Further, Rotella et al. discuss the importance of estimating detectability (through estimating distances in which birds can be detected) in avian censuses.

The last section, entitled simply Latin America, presents some much needed information on the ecology and conservation of grassland birds south of the United States. Papers by Cavalcanti (on the Cerrado region of Brazil), Tubaro and Gabelli (on the Pampas Meadowlark, *Sturnella defilippii*), and da Silva (on seedeaters of the genus *Sporophila*), among others, should help expose North American readers to the fact that grassland-bird problems are not limited to our continent. Basili and Temple (through two papers in this section) also highlight the fact that population declines of one North American grassland breeder, the Dickcissel (*Spiza americana*) may result from human-caused mortality on their Venezuelan wintering grounds. However, that section, in particular, would have benefited from more contributions related to grassland birds spanning the Americas.

In conclusion, this book has much to offer avian ecologists, especially those interested in grassland ecosystems. It is well worth its relatively modest cost and should be included in all university libraries.—ERIC K. BOLLINGER, *Department of Biological Sciences, Eastern Illinois University, Charleston, Illinois 61920 USA. Email: cfekb@eiu.edu*

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The Birds of Pennsylvania—Gerald M. McWilliams and Daniel W. Brauning. 2000. Cornell University Press, xiv + 479 pp., 67 black-and-white photographs, 44 maps, ISBN 0-8014-3643-5. Cloth, \$39.95.—Pennsylvania, the home of Wilson, Audubon, and Bartram in the historic era, and Todd, Sutton, Parkes, Gill, and Parker in more modern times, has been a keystone state to American ornithology. The study of American birds was practically founded

at the Academy of Natural Sciences in Philadelphia and continues through that institution and the Carnegie Museum in Pittsburgh. Hawk Mountain Sanctuary rides the backbone of the state's Kittatinny Ridge, inspiring raptor research, education, and conservation around the world. Pennsylvania recently became the first state to list its Important Bird Areas. Yet, in spite of Pennsylvania's significant contribution to ornithology, there were no statewide bird references until the last decade. Amazingly, McWilliams and Brauning's book is the first comprehensive book about the state's birds since Warrens' *Birds of Pennsylvania* published in 1890.

McWilliams and Brauning's book is a successor to Earl Poole's unpublished manuscript (circa 1960) and benefits from the many detailed observations made in W. E. C. Todd's magnificent *Birds of Western Pennsylvania* (1940). Brief works by E. L. Poole (1964) and M. Wood (1979) gave only cursory species accounts, but did provide mileposts on bird ranges from which to compare those described in the present book.

Although Pennsylvania has a reputation as an urban center, most of the state is rural. Approximately 59% of its area is covered with diverse forest types. Indeed, Pennsylvania is a stronghold for many eastern forest birds. A large percentage of the world's Scarlet Tanagers (*Piranga olivacea*), Worm-eating Warblers (*Helminthos vermivorus*), and Wood Thrushes (*Hylocichla mustelina*) live here (Rosenberg and Wells 1996). With its large forest cover and geography, Pennsylvania has high responsibility for the conservation of several of the Watch List species such as Golden-winged Warbler (*Vermivora chrysop-tera*), Cerulean Warbler (*Dendroica cerulea*), Louisiana Waterthrush (*Seiurus motacilla*), and the species already named. The western reclaimed strip mines may support the largest Henslow's Sparrow (*Ammodramus henslowii*) populations in the Northeast. The state's line of ridges provide a major highway for diurnal raptors, whereas its woods and thickets are vital stopping points for many migrating songbirds. Because this book covers the relationships of many bird species to Pennsylvania's physical features, it is not only valuable for academic and recreational uses, but pertinent and timely for bird conservation.

After a forward by Pennsylvania native, Kenn Kauffman, and a preface that puts this publication in its historical context, the authors present a thorough and insightful review of "Historical Perspectives on Bird Populations and Habitats" in the Introduction. This 24-page review is a must-read for anyone interested in the state's ornithology. It puts into perspective modern bird populations in light of what we know of the state's history, geography, and ecology. The Introduction also guides the reader through the seasonal changes of bird distribution and movements as well as the state's geographical and ecological units. Convenient maps show physiographic provinces, counties, popular birding spots, and